

United States Patent [19]**Brown et al.**[11] **4,414,849**[45] **Nov. 15, 1983**

[54] **APPARATUS AND A METHOD FOR INDICATING VARIATIONS IN ACOUSTIC PROPERTIES ON AN INTERFACE**

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[52] U.S. Cl. **73/290 V; 73/599**

[58] Field of Search **73/290 V, 599, 32 A**

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[57] **ABSTRACT**

The apparatus provides for detection of variation in acoustic properties at a metal to air interface (18) such as may be caused by arrival of drops of leaking liquid. Ultrasonic signal pulses from transducer (14) are reflected many times back and forth across rod (11) between the transducer and the interface (18). Change in diminution of amplitude with successive reflection can be detected over a multiplicity (e.g. 10) of reflections and indicates change in the acoustic properties of the interface. Comparison is made between a selected early reflected signal pulse and a selected later reflection. Response is inhibited in respect of intermediate reflections.

8 Claims, 7 Drawing Figures

